

A NEW SPECIES OF THE MILLIPEDE GENUS *TYLOPUS* JEEKEL FROM SOUTHERN CHINA (DIPLOPODA, POLYDESMIDA, PARADOXOSOMATIDAE)

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Abstract A new species of *Tylopus* Jeekel, 1968 is described from Guangxi, Southern China: *T. deharvengi* sp. nov. It differs from *T. sinensis* Golovatch, 1995, the only species of the genus known from China, by the following combination of characters: large size (length ca 25 mm in ♂ or 27 mm in ♀), paraterga rather strongly developed, ♂ legs modified (femora, postfemora, tibiae and tarsi with one or more ventral tubercles), pleurosternal carinae present on segments 2–17, and gonopod process h very sharp and spiniform.

Key words Millipede, *Tylopus*, new species, China.

The genus *Tylopus* Jeekel, 1968, is one of the largest and most common genera in the millipede family Paradoxosomatidae in Southeast Asia and Southern China. At the moment it contains 41 species which are restricted to Myanmar (2 species), Thailand (26 species), Laos (2 species), Vietnam (13 species) and Southern China (1 species). This genus has been reviewed by Golovatch & Enghoff (1993) and Likhitrakarn *et al.* (2010), both these papers providing detailed descriptions of characters and keys. Species of *Tylopus* are almost forest-dwellers, a few species in montane habitats. Up to now, only one species, *T. sinensis* Golovatch, 1995, has been recorded in China, in a limestone cave in Yunnan Province. It is believed that more *Tylopus* species will be found in China in near future.

In the present paper, one new species of *Tylopus* is described and illustrated from Guangxi Zhuang Autonomous Region. The type specimens are deposited in the zoological collection of the South China Agricultural University, Guangzhou, China (SCAU).

***Tylopus deharvengi* sp. nov.** (Figs 1–12)

Holotype ♂ (SCAU), China, Guangxi, Du'an County, Xia'ao Town, Yaonan Village, Yaonan Dong, Cave 1 (24.24°N, 107.94°E, alt. 350 m), debris, Berlese extraction, 26 Apr. 2010, leg. L. Deharveng *et al.* (CHIgx10-65). Paratype 1 ♀ (SCAU), same locality as the holotype.

In honours of Dr. Louis Deharveng (Museum National D'histoire Naturelle, France), a well-known biospeleologist who collected the type materials.

Diagnosis. The new species differs from *T.*

sinensis, the first recorded species of the genus in China, by the following combined characters: large size (length ca 25 mm in ♂ or 27 mm in ♀), paraterga rather strongly developed, ♂ legs modified (femora, postfemora, tibiae and tarsi with one or more ventral tubercles), pleurosternal carinae present on segments 2–17, and gonopod process h very sharp and spiniform.

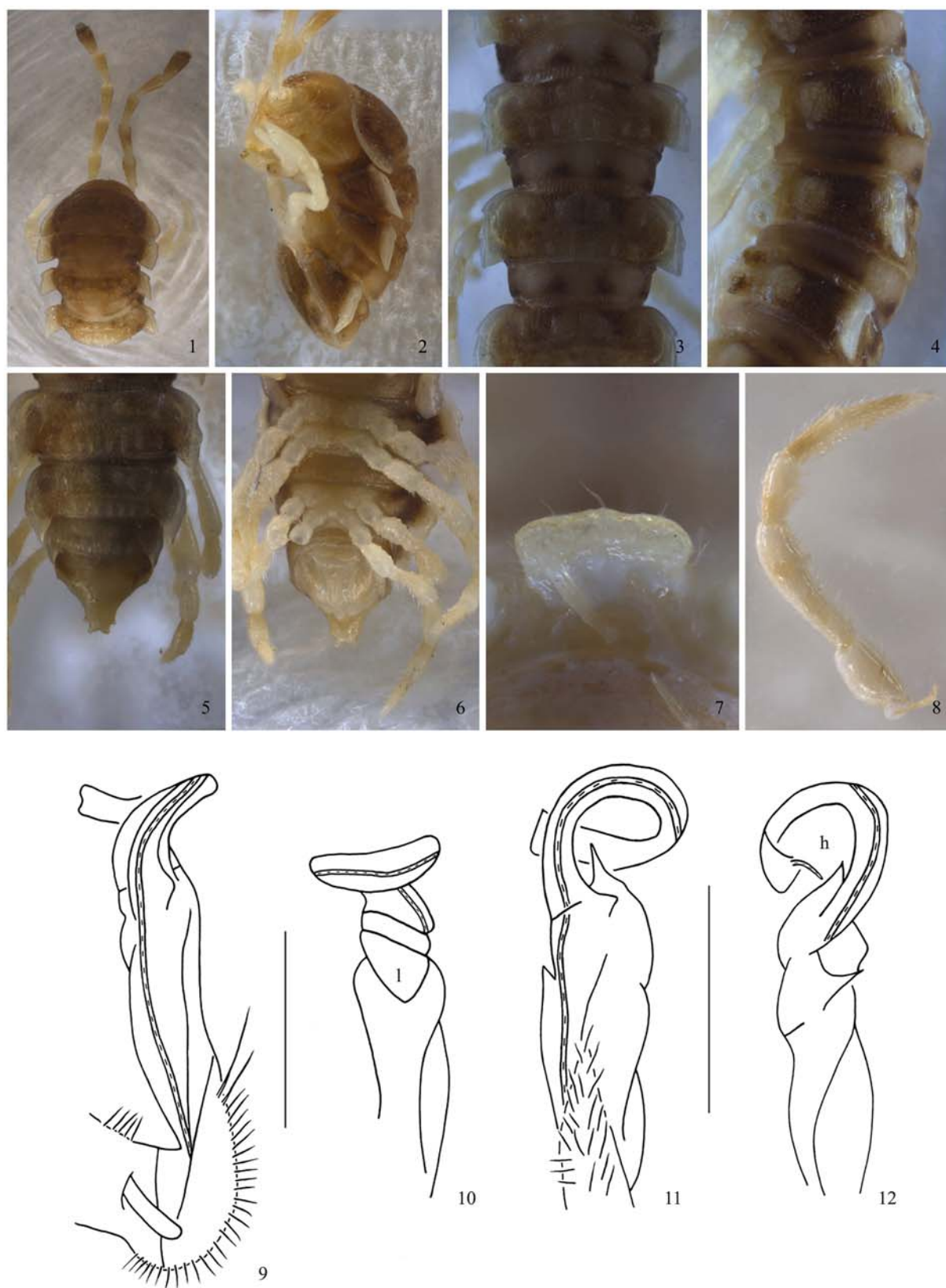
Length ca 25 mm in ♂ or 27 mm in ♀, width of midbody pro- and metaterga 1.8 and 2.2 mm in ♂ or 2.2 and 2.7 mm in ♀, respectively. Coloration in alcohol variegated brown, paraterga, venter and basal podomeres (coxae to postfemora) lighter, light grey-brown; antennae brown, but antennomeres 6 and 7 dark brown, tip pallid (Fig. 1); proterga with a paramedian pair of dark brown stripes or subtriangular spots divided by a similarly wide, light, axial stripe and, more laterally, delimited on each side by a similarly wide, light patch level to paraterga; bases of paraterga slightly infuscate.

Clypeolabral region very densely, vertigial region more sparsely, setose. Epicranial suture distinct. Antennae rather long and slender, reaching behind segment 3 (♂) or 2 (♀) dorsally. In width, head < collum < segments 3–4 < 2 < 5 = 16; thereafter body gradually and gently tapering towards telson.

Collum and following metaterga evidently granulate-tuberculate, rugose, but shining; prozona very finely shagreened, rather dull; surface below paraterga finely microgranulate (Figs 1–2). Collum with three transverse rows of setae borne on small

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Figs 1 – 12. *Tylopus deharvengi* sp. nov., holotype. 1 – 2. Anterior. 3 – 4. Segments 10 and 11. 5 – 6. Posterior. 7. Sternal lobe between coxae 4. 8. Midbody leg. 9 – 12. Left gonopod. l. Lobe l. h. Process h. 1, 3, 5, 11. Dorsal view. 2, 4, 10. Lateral view. 6, 12. Ventral view. 7. Sublateral view. 9. Mesal view. Scale bars = 0.5 mm.

tubercles or wrinkles: 4 + 4 in anterior, 2 + 2 in middle, and 3 + 3 in posterior row (♂), or 3 + 3 in anterior, 2 + 2 in middle, and 2 + 2 in posterior row (♀); paraterga evident, rounded, flap-shaped. Following metaterga with two transverse rows of rather long, often abraded setae borne on similarly low tubercles or wrinkles: 2 + 2 in anterior and 2-4 + 2-4 in posterior row, the latter especially readily traceable as insertion tubercles or wrinkles gradually growing in number towards metatergum 19. Axial line thin, visible on collum and following metaterga. Paraterga rather strongly developed, more strongly so in ♂, lying high (at 1/3 - 1/4 midbody height), pointed caudally and acutangular already from segment 2, especially strongly produced caudad in caudal segments; calluses very thin in poreless segments, slightly thicker and sinuate in dorsal view in caudal 1/3 (marking ozopore position) in pore-bearing ones; anterior 1/3 of each of paraterga 2 - 17 with an evident, lateral, setigerous denticle. Ozopores entirely lateral, lying inside an ovoid groove about 1/3 in front of caudal corner (Fig. 4). Transverse sulcus incomplete in metaterga 3 and 4, more evident and complete in metaterga 5 - 18, reaching bases of paraterga, evident and rather deep, faintly rugulose at bottom. Stricture between pro- and metazona very clearly ribbed (Fig. 3). Epiproct with a paramedian pair of tubercles near midway, tip evidently emarginate, pre-apical and apical papillae very evident. Hypoproct roundly subtrapeziform, caudal setae strongly separated, borne on evident knobs with a rounded lobe in between (Figs 5 - 6). Pleurosternal carinae well-developed, especially so due to a caudal tooth visible in segments 2 - 17.

Sterna moderately setose, without modifications, cross-impressions rather evident (♂); a roundly subquadrate sternal lobe between ♂ coxae 4 (Fig. 7). Legs long and slender, about 2.5 times (♂) or 2.0 times (♀) as long as midbody height; ♂ tibiae and tarsi with very evident ventral brushes until last two leg-pairs; starting from ♂ legs 5 until last two leg-

pairs, each femur with three small, but evident, ventral tubercles in distal half; each postfemur and tibia with a similar ventral tubercle near midway; each tarsus with a similar ventral tubercle near base (Fig. 8).

Gonopods (Figs 9 - 12) simple, femorite with a clear-cut mesal groove, lobe 1 well-demarcated; process h quite prominent; solenophore slender and strongly coiled.

Remarks. This new species is the second congener of the genus known in China. Even both species were found in limestone caves, they are apparently not true cavernicoles.

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中国南方瘤马陆属一新种记述 (倍足纲, 带马陆目, 奇带马陆科)

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摘要 记述中国广西倍足类瘤马陆属 1 新种, 德氏瘤马陆 *Tylopus deharvengi* sp. nov., 新种与中华瘤马陆 *T. sinensis* Golovatch, 1995 的区别在于: 1) 体型较大 (雄性体长 25 mm, 雌性 27 mm); 2) 背板侧突相当发达; 3) 雄性体的

股节, 后股节, 胫节和跗节都具有腹面瘤突; 4) 第 2 ~ 17 体节的胸侧板都具有胸侧板脊; 5) 生殖肢的突起很尖锐, 呈刺状。

关键词 倍足纲, 瘤马陆属, 新种, 中国.

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